

Activity 5.1

Financial Security Through Early Saving and Compounding Interest

Name _____ Date _____ Hour _____

Introduction

The amount of money you earn from savings or investments depends upon the interest rate. Simple interest is just the interest on deposits. For example, if you deposit \$200 in a savings account that pays 3% simple annual interest and leave it alone, you will earn \$6 each and every year in simple interest. In five years, you will have earned \$30 interest; in ten years, you will have earned \$60 interest.

Compound interest, however, is paid on the total amount in the account, the principal and all the accumulated interest. You would still earn \$6 in interest in the first year, but because subsequent years would also be based on accumulated interest, the amount of interest would increase each year—starting at \$6.18 in the second year. In five years, you would have earned a total of \$31.85 in interest. In ten years, the amount would be \$68.78.

Another factor in increasing savings is to start early. Two people can deposit \$1000 in a 5% CD that pays quarterly interest and leave it alone until they are 60. If one person starts the CD at age 40, he will have \$2701.48 by age 60. Yet by depositing the \$1000 at age 20, that amount goes up to \$7298.02.

Directions

Solve the following problems using an online compounding calculator. Show your work. You can search for “compounding calculator” or use one of the following:

- www.themint.org/teens/compounding-calculator2.html
- www.thecalculatorsite.com/

1. Amy begins depositing \$25 a month when she gets her first job at age 16. Her account is at 3% interest and is compounded annually. How much will she have at age 30? Remember you need to calculate the number of years to invest. Her age is NOT the number of years she is investing. Hint: subtract her current age from her future age to determine the number of years she is actually investing the money.

If she stops making deposits at age 30 but invests the money she has accumulated into an account that pays 4.25%, how much will she have at the following ages:

40? _____ Age 50? _____ Age 60? _____ Age 70? _____

2. A newlywed couple decides to save for a house by depositing all the gifts of money they received at their wedding into an investment that earns 8.34% compounded monthly. They end up depositing \$10,000. They would like to buy a house in five years. How much will they have? How much will they have if the interest is compounded yearly?

3. Will deposits \$2,500 into an account that earns 5% interest that is compounded quarterly and leaves it there for three years. How much will he have at the end of the three years? _____ How much total interest will he earn? _____
4. Maria's older brother received \$5000 as part of a settlement. He insists on high liquidity. Maria convinces him to put the money in a money market account that pays 4.48% interest and is compounded monthly. How much will the brother have in a year? _____ Two years? _____
5. Tony has \$10,000 to deposit for five years. He is choosing between three banks that pay 4.25% interest. However, Bank A compounds annually; Bank B compounds quarterly; and Bank C compounds monthly. How much interest can Tony earn at each bank in five years?

Bank A _____

Bank B _____

Bank C _____

6. At 22, Lisa recently started at a good job and is planning to start a savings plan. She can afford to save 500 dollars a month, and thinks she can earn 2% interest compounded yearly. She expects a 3% inflation rate. How much money will she have when she turns 67? If she wants to live off of the money for 20 years, how much will she have to live on each year? What if she invests the same amount, but waits until she is 35 to begin investing? How much will she have at age 67? How much is that each year for 20 years?

NOTE: Start with the base amount of \$500.

7. Diana invests \$500 today in an account earning 7% compounded annually. How much will it be worth in 5 years? _____ 10 years? _____ 20 years? _____

Now Diana finds an account that earns 10% compounded annually. How much will her \$500 be worth at the new rate in: 5 years? _____ 10 years? _____ 20 years? _____

Activity 5.2

What's the Return?

Name _____ Date _____ Hour _____

Introduction

Investments make money for investors in two ways. One is through the sale of an investment for more than you paid for it initially. This is possible when an investment appreciates. The other way that investments make money is through dividend returns. When you add the dividends to the appreciation, it is known as the total return. When you divide the total return by the amount of the initial investment, it is known as the cumulative return. Dividing the cumulative rate of return into the years in a time period provides you with the annualized rate of return.

Use the following formulas for your calculations:

Ending value - beginning value = appreciation or depreciation

Dividend return + appreciation/depreciation = total return

Total return / amount of initial investment = cumulative rate of return

Cumulative rate of return / number of years in time period = annualized rate of return

Directions

Calculate the returns on the following investments.

1. Janaki owns 60 shares of stock. During the first year, she receives dividends of \$1.05 per share. In the second year, she receive \$.90 a share in dividends. And in the third year, she receives \$1.35 per share. Calculate the dividend returns for Janaki's stock in the first three years she owns it.

2. Janaki initially paid \$15 per share of stock. After three years, she decides to sell it for \$20 a share. Calculate the total return, cumulative return, and annualized rate of return.

3. Jackson owns 25 shares of stock worth \$17.75 per share. In year one, he earns .70 per share in dividends; in year two, it falls to .45 per share in dividends. He sells the stock after two years at \$16.50 per share. Figure out the following:

Dividend return _____

Appreciation/depreciation _____

Total return _____

Cumulative rate of return _____

Annualized rate of return _____

4. Emily's grandparents give her a 26-week \$5000 Treasury bill. At the end of 26 weeks, she will have \$5000, which is more than the \$4875 that her grandparents initially paid. Calculate the cumulative and annualized rate of return.

5. Joshua bought 40 shares of a stock in a software company for \$60 a share two years ago. The annual dividends are \$1.25 per share. He's had an offer to sell his stock for \$115 a share. What will be the total return on his investment if he decides to sell?

Activity 5.3

Follow Your Investments

Name _____ Date _____ Hour _____

Introduction

Investing in the stock market has the potential for both risk and returns. It’s important to research any stock you want to invest in ahead of time. Researching a stock through company financial reports, newspapers, the Internet, and stock advisory services such as Standard & Poor’s or Moody’s provides information about the health of a company so that you can predict whether it will make a good investment. Find another tool at www.fool.com.

Directions

Part 1: Choose a stock you would like to buy, and research it with at least five different sources. Use the following table to weekly track the following information:

- YTD % change: stock price change to date
- Hi: highest price paid for one share daily
- Lo: lowest price paid for one share daily
- PE: Price-earning ratio
- Close: Price paid in the close transaction of the day
- Net Chg: Net change; different between price paid for last share traded for day and the last share traded in the previous day.

	Ytd % Chg	Hi	Lo	PE	Close	Net Chg
WEEK 1						
WEEK 2						
WEEK 3						
WEEK 4						
WEEK 5						
WEEK 6						
WEEK 7						
WEEK 8						
WEEK 9						
WEEK 10						
WEEK 11						
WEEK 12						
WEEK 13						
WEEK 14						
WEEK 15						

Part 2: At the end of the research period, sum up your findings and put them in a diagram. Present the information to the class in an oral report.

Activity 5.4

Unit Review Crossword

Name _____ Date _____ Hour _____

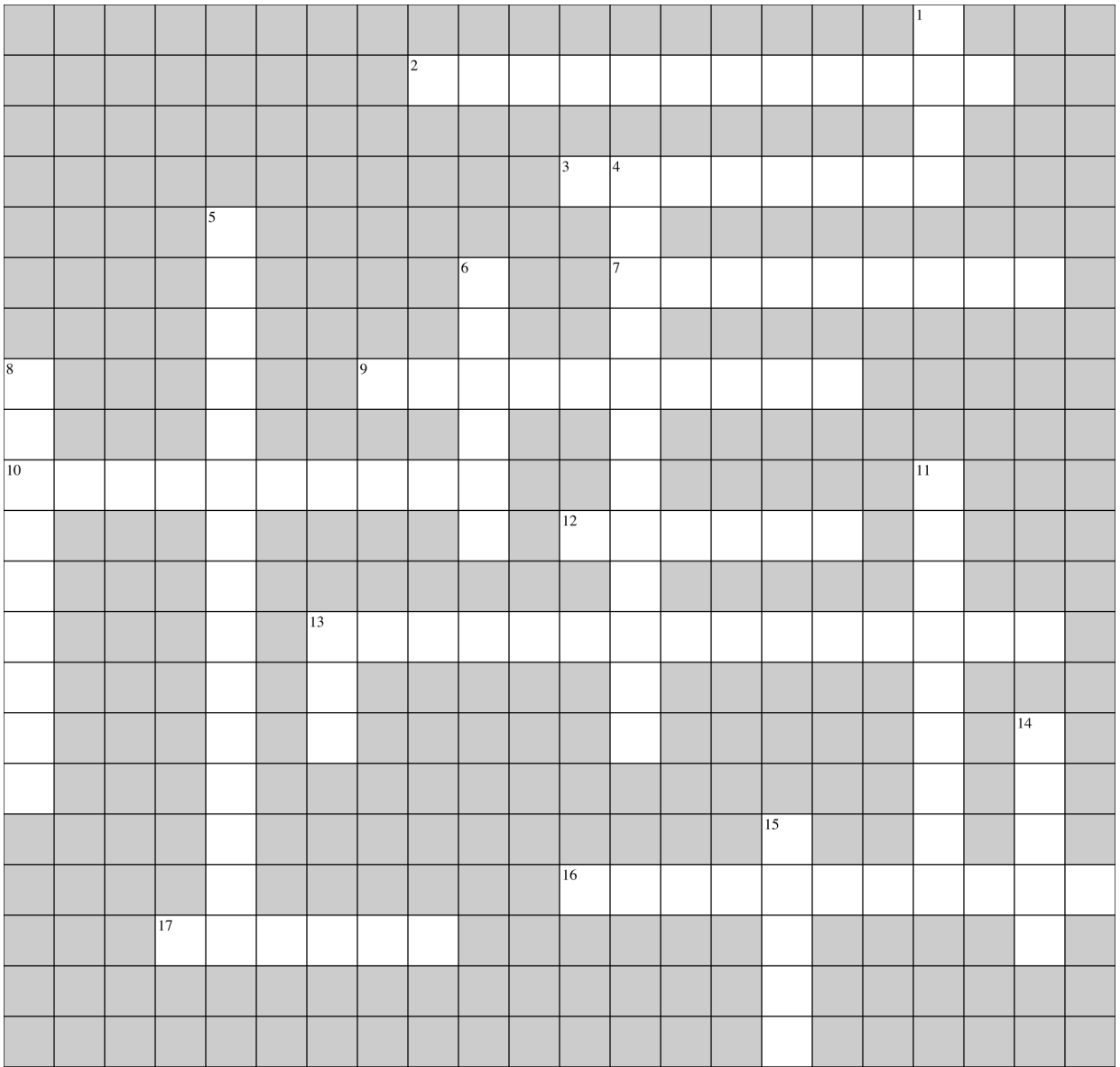
Clues

Across

2. When a stock sells for less than the purchase price
3. Type of mutual fund that provides income and growth
7. A group of investments is known as a _____.
9. How mutual funds are sold
10. Degree that an investment's value changes
12. First electronic stock exchange
13. Not putting all of your eggs in one basket
16. Stockholder
17. The SEC protects investors by regulating companies that sell what?

Down

1. AAA rating is an example of what kind of rating?
4. Increase in value
5. Giving up something now for the benefit of something later
6. Well-known investor service with web site
8. Company earnings
11. Type of bond
13. Oldest and most well-known stock index
14. An emergency fund should contain ___ months of living expenses.
15. High risk stocks for under a dollar per share



EclipseCrossword.com